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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/083,967	02/25/2002	Nobuyuki Kambe	2950.51US02	6998
24113	7590	05/09/2006	EXAMINER	
PATTERSON, THUENTE, SKAAR & CHRISTENSEN, P.A. 4800 IDS CENTER 80 SOUTH 8TH STREET MINNEAPOLIS, MN 55402-2100			CAIN, EDWARD J	
			ART UNIT	PAPER NUMBER
			1714	

DATE MAILED: 05/09/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/083,967

Applicant(s)

KAMBE ET AL.

Examiner

Patrick D. Niland

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 2/1/06.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-8, 10-22 and 78-110 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-8, 10-22 and 78-110 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☒ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

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1. The finality of the office action of 12/19/05 is withdrawn. The amendment of 2/1/06 has been entered. Claims 1-8, 10-22, and 78-110 are pending.

2. Claims 1-8, 10-22, and 78-110 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

A. It is unclear if “each” of claims 1, 16, 78, and 79 refer to each of the interface and the first and second optical materials or only the first and second optical materials. Grammatically, all three are encompassed. However, from figure 1 and its description, it would appear that the interface might only be the touching of the two optical materials. The scope of the claims is therefore unclear.

B. The instant claims recite differences in index of refraction without specifying the wavelength of the light used and the temperature. It is well known from undergraduate courses including organic chemistry that that index of refraction has little meaning unless temperature and wavelength are specified. This would apply to the differences of indices of refraction for mathematically clear reasons.

C. It is unclear what is required by “modified” of the instant claim 8.

D. “Blend” and “mixture appear to be equivalent synonyms. It is unclear how claim 5 further limits claim 1. It is unclear how claim 83 further limits claim 78. It is unclear how claim 95 further limits claim 79

E. Claims 5 and 83 are objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent

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form, or rewrite the claim(s) in independent form. It is unclear what the difference is between a blend and a mixture as they appear to be equivalents. Claims 5, 83, and 95 therefore do not further limit the claims from which they depend.

3. Claims 8, 91, and 103 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for the disclosed “modifications”, does not reasonably provide enablement for all of the modifications encompassed by the claimed recitation of “modified”. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention commensurate in scope with these claims.

A. There are an infinite number of “modifications” one may perform on the claimed polyolefins. It would required undue experimentation, particularly given the lack of guidance in the instant specification regarding all of the claimed modifications and the fact that chemistry is an unpredictable art, to determine all of the modifications encompassed by the instant claims which would function in the instantly claimed invention. Most would clearly not function as they would give properties such that they would be impossible to use. This determination alone would require an infinite amount of experimentation to accomplish which is impossible and therefore undue.

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

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5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1-3, and 5-8 are rejected under 35 U.S.C. 102(b) as being anticipated by US Pat. No. 5850498 Shacklette et al..

Shacklette discloses a waveguide having two touching segments of different indexes of refraction where the touching portion falls within the scope of the instantly claimed interface and the multiple sections of the figure fall within the scope of the interface if it is indeed required to comprise a polymer also which uses core and cladding each of which may be polymeric and contain filler. See the abstract; figures 1-6; column 1, lines 5-39 and 53-67; column 2, lines 1-13; column 3, lines 5-67, particularly 21-33; column 5, lines 29-67, particularly 29-31; column 6, line 1 through column 8, line 67; column 9, lines 1-67, particularly 9-13 which encompasses the instantly claimed inorganic particles; and the remainder of the document. Silica is a metalloid oxide as are glass spheres. To function as a waveguide the index of refraction differences are expected to necessarily be required to be those of the instant claims 2 and 3 particularly considering the above noted indefiniteness.

7. Claims 1-3, 5-8, 10-17, 16, 18-22, 78, 80-86, 89-91, 104-106, and 108-109 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Pat. No. 5850498 Shacklette et al..

Shacklette discloses a waveguide having two touching segments of different indexes of refraction where the touching portion falls within the scope of the instantly claimed interface and

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the multiple sections of the figure fall within the scope of the interface if it is indeed required to comprise a polymer also which uses core and cladding each of which may be polymeric and contain filler. See the abstract; figures 1-6; column 1, lines 5-39 and 53-67; column 2, lines 1-13; column 3, lines 5-67, particularly 21-33; column 5, lines 29-67, particularly 29-31; column 6, line 1 through column 8, line 67; column 9, lines 1-67, particularly 9-13 which encompasses the instantly claimed inorganic particles; and the remainder of the document. Silica is a metalloid oxide as are glass spheres. To function as a waveguide the index of refraction differences are expected to necessarily be required to be those of the instant claims 2,3, 80, and 81 particularly considering the above noted indefiniteness. It would have been obvious to one of ordinary skill in the art at the time of the instant invention to use the silica of the patentee in the instantly claimed small amounts or else the clarity of the components would be adversely affected since the silica is often cloudy and crystalline and smaller amounts would be expected to give more optically clear composites. It would have been obvious to one of ordinary skill in the art at the time of the instant invention to use the silica of the patentee in the instantly claimed particle sizes because commercially available silicas such as the Cabosils are typically in the sub-micron range and more typically below 100 nanometers, as well as have the narrow particle distributions of the instant claims, in size and such small particle sizes would have been expected by the ordinary skilled artisan to affect the light less do to the small size of the particles relative to the wavelengths of light used.

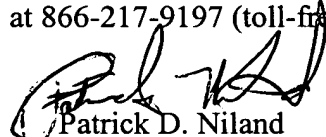
8. Claims 4, 79, 87-88, 92-103, 107, and 110 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, First and/or 2nd paragraphs, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

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9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Patrick D. Niland whose telephone number is 571-272-1121. The examiner can normally be reached on Monday to Thursday from 10 to 5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vasu Jagannathan, can be reached on 571-272-1119. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Patrick D. Niland  
Primary Examiner  
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